ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS) IN THE AMERICAS

The Status of AIDS in the Americas

In 1983 the Pan American Health Organization initiated hemisphere-wide surveillance against AIDS. At that time AIDS was limited almost exclusively to the United States and certain high-risk population groups. Therefore, a simple reporting system based on the case definition employed by the U.S. Centers for Disease Control was established. PAHO's Member Countries were asked to report the total number of AIDS cases and deaths every six months. Because the aim was to monitor the spread of the disease in the Americas, no attempt was made to distinguish between the AIDS-related complex and advanced cases of the disease or to include cases of AIDS virus infection once it became possible to test for antibodies.

Table 1 shows the total number of known AIDS cases and deaths in the Americas, by subregion and country, that had been reported as of 18 September 1987. Mexico and Brazil are treated as separate subregions. According to the recorded data shown, the case-fatality rate (number of deaths as a percentage of the number of cases) was 55%.

Brazil, Canada, Haiti, and the United States had the largest numbers of reported cases (46,001, or 96% of the total). Excluding North America, 4,966 cases had been reported in the remaining 40 countries and territories of the Americas. Only Montserrat and the British Virgin Islands have not yet reported any AIDS cases.

Twenty-two percent (1,116) of these 4,966 cases were reported in the Latin Caribbean subregion, which has only 7% of the population of Latin America and the Caribbean; Haiti accounted for 912. Fewer cases (628, or 13%) were reported in the rest of the Caribbean, but that subregion's inhabitants (approximately 6.5 million people) represent only 2% of the Region's population outside North America. This high incidence of AIDS in the Caribbean Basin is a matter of particular concern.

Surveillance data and specific information from several studies lead to the following conclusions about patterns of AIDS in the Americas:

(a) The demographic profile of patients in the United States is clear, and there has been little deviation from

TABLE 1. Cumulative known AIDS cases and deaths in the Americas notified as of 18 September 1987, by subregion and country, showing the dates of the first and last reports received.

Subregion and country	Cases	Deaths	Date of first report	Date of last report
LATIN AMERICA	*4,338*	*1,392*		
Southern Cone[a]	*181*	*95*		
Argentina	112	56	31 Dec 83	18 Sep 87
Chile	42	22	31 Dec 84	30 Jun 87
Paraguay	14	9	31 Dec 86	30 Jun 87
Uruguay	13	8	31 Dec 83	30 Jun 87
Brazil	*2,013*	*734*	*31 Dec 82*	*15 Sep 87*
Andean area:	*352*	*140*		
Bolivia	2	1	31 Dec 85	18 Sep 87
Colombia	153	53	31 Dec 86	1 Sep 87
Ecuador	52	6	31 Dec 85	15 Sep 87
Peru	44	6	30 Jun 82	15 Sep 87
Venezuela	101	74	31 Dec 84	18 Sep 87
Central America:	*142*	*84*		
Belize	2	2	31 Mar 87	30 Jun 87
Costa Rica	31	18	31 Dec 83	30 Jun 87
El Salvador	12	6	31 Dec 85	30 Jun 87
Guatemala	27	27	30 Sep 86	30 Jun 87
Honduras	29	13	30 Jun 85	30 Jun 87
Nicaragua	19	0	18 Sep 87	18 Sep 87
Panama	22	18	31 Dec 84	18 Sep 87
Mexico	*534*	*177*	*30 Jun 81*	*30 Jun 87*
Latin Caribbean:	*1,116*	*162*		
Cuba	4	3	31 Dec 86	30 Jun 87
Dominican Republic	200	35	31 Dec 85	31 Mar 87
Haiti	912	124	31 Dec 84	18 Sep 87
CARIBBEAN:[b]	*628*	*350*		
Anguilla	2	0	31 Mar 87	30 Jun 87
Antigua	3	3	31 Dec 85	30 Jun 87
Bahamas	126	56	31 Dec 85	30 Jun 87
Barbados	44	27	31 Dec 84	30 Jun 87
Cayman Islands	2	2	31 Dec 85	31 Mar 87
Dominica	5	3	31 Mar 87	30 Jun 87
French Guiana	84	60	31 Dec 86	30 Jun 87
Grenada	6	5	31 Dec 84	30 Jun 87
Guadeloupe	51	28	31 Dec 86	30 Jun 87
Guyana	4	2	30 Sep 86	30 Jun 87
Jamaica	30	20	30 Jun 86	18 Sep 87
Martinique	27	17	31 Dec 86	30 Jun 87
Montserrat	0	0	31 Jul 87	31 Jul 87
Netherlands Antilles	18	10	31 Mar 87	30 Jun 87
Saint Lucia	6	2	31 Dec 84	11 Sep 87
St. Christopher-Nevis	1	0	31 Dec 85	31 Dec 85
St. Vincent and the Grenadines	3	2	30 Jun 85	31 Dec 85
Suriname	6	5	30 Jun 84	30 Jun 87
Trinidad and Tobago	199	106	30 Jun 83	15 Sep 87
Turks and Caicos Islands	4	2	31 Dec 86	30 Jun 87
Virgin Islands (UK)	0	0	31 Mar 87	31 Mar 87
Virgin Islands (US)	7	0	31 Mar 87	14 Sep 87
NORTH AMERICA:	*43,138*	*24,770*		
Bermuda	62	43	31 Dec 84	30 Jun 87
Canada	1,258	657	31 Dec 79	14 Sep 87
United States[c]	41,818	24,070	30 Jun 81	14 Sep 87
Total	48,104	26,512		

[a] Includes Falkland Islands.
[b] Includes French Guiana, Guyana, and Suriname.
[c] Includes Puerto Rico

that pattern since the epidemic began. Sixty-six percent of the patients have been homosexual or bisexual men, 17% have been intravenous drug addicts, and 8% have belonged to both groups. Only 4% have been men or women who contracted the disease through heterosexual contact. Most of these patients have been women in frequent contact with bisexual men or drug addicts. Most child patients have contracted the disease through exposure to a parent who was afflicted with AIDS or at high risk of contracting the disease.

(b) The pattern is slightly different in Canada and Brazil, where a larger share of the patients have been homosexual or bisexual males and a smaller proportion have been intravenous drug addicts. In Brazil, 15% of the patients are as yet unclassified. However, this percentage is decreasing as a result of intensified case investigations.

(c) Nearly all of the reported cases in Argentina have occurred among homosexual males.

(d) Nearly all the initial cases in Costa Rica occurred among hemophiliacs who received imported blood products. Since then the proportion of such cases has declined; the disease has been confirmed in other groups at risk by seroprevalence surveys and case-finding activities.

(e) Unlike the situation in Africa, where the 1:1 male-to-female case ratio indicates heterosexual transmission, the profile of AIDS in the Americas is dominated by transmission between homosexual and bisexual males. However, in two countries, Haiti and the Dominican Republic, the ratio of male to female cases is 4:1, that is, intermediate between the ratio in Africa and that in the United States (12:1), and the pattern may be shifting towards heterosexual transmission. Since reporting of cases by sex was begun in January 1987, women have accounted for 15 and 22% of the reported cases in the non-Latin and Latin Caribbean, respectively, but for only 0 to 9% of the cases in the rest of the Region.

Reticence about reporting cases in some areas, combined with underrecognition of AIDS and underreporting to international health authorities, has meant that the total number of reported AIDS cases represents only a fraction of the total cases that have actually occurred. Excluding the United States and Canada, PAHO estimates that the true number of cases may be two to four times higher than that reported. Therefore, PAHO considers the number of countries officially reporting cases to be more indicative of AIDS' geographic extent and more relevant to an assessment of the scope of the AIDS-HIV pandemic than the number of reported cases. Moreover, because of the long incubation period (up to six years or more) from the time of HIV infection to the development of clinical disease, the number of reported AIDS cases provides a view of the real extent and intensity of HIV infection that is at best inaccurate, at worst highly misleading.

Natural History

The fate of these HIV-infected people remains unknown, because scientific knowledge about the natural history of AIDS infection is limited to the roughly seven-year observation period that has elapsed since AIDS was first described. However, three major consequences of HIV infections have been identified—these being AIDS, AIDS-related illness, and HIV neurologic disease. During a six-year period, approximately 10% to 30% of the HIV-infected population can be expected to develop AIDS. An additional 20% to 50% will develop AIDS-related illness. The proportion of HIV-infected people that will develop HIV neurologic disease (particularly dementia) is unknown, but an epidemic of progressive neurologic disease among those infected must be considered a probability.

Ultimately, a large majority of those infected with HIV may suffer severe adverse outcomes or death associated with the infection. For persons diagnosed as having AIDS over three years ago, mortality is usually in the range of 90–100%.

Further spread of HIV is certain to occur for the following reasons:

(a) Persons with HIV are presumed to be infected for life. Most will not develop any symptoms or evidence of illness for at least several years, during which time they may transmit HIV to others.

(b) HIV spreads sexually (from an infected person to his or her sexual partner), as well as through blood passed by transfusions, injections, or contaminated skin-piercing instruments) and the gestation and birth process (from mother to child). These multiple modes of transmission mean that virtually all segments of the world population will have some degree of exposure to HIV. In other words, once HIV is introduced into a population, spread is virtually inevitable.

(c) HIV is already disseminated throughout the Americas, even though regional differences in the current rate of infection are quite important.

In addition, HIV may only be the first of a series of retroviruses capable of infecting humans and producing immunosuppression. Indeed, recent recognition of additional pathogenic and immunosuppressive human retroviruses in West Africa could herald the beginning of an even larger problem than the present HIV pandemic.

Consequences

The personal and social costs of the HIV pandemic are enormous. Uncertainties regarding prognosis, along with fears and realities of exposure and ostracism, lead HIV-infected but asymptomatic people to experience higher levels of stress than the AIDS patients themselves. Family structure and function is threatened both by infection and by loss of mothers and fathers. The socioeconomic fabric is dramatically affected by the epidemic of illness and death among productive 20 to 50 year olds that typifies AIDS epidemiology in both industrialized and developing countries.

The economic costs of AIDS are also huge. For example, in the United States an estimated US$1.5 billion will be spent for drug treatment of AIDS patients alone in 1991, and the total cost of direct medical care that year is projected at US$16 billion. The combined impact of the pandemic of AIDS, AIDS-related diseases, and neurologic disease upon health care, insurance and legal systems, economic and social development, and indeed entire cultures and populations will be extraordinary and profound.

Already, the depth and extent of personal and public reaction to AIDS throughout the Region has been considerable. However, this response has been generated by only 48,104 reported AIDS cases in this Region and about 59,600 worldwide. The potential stresses resulting from the occurrence of 270,000 projected AIDS cases in the United States alone by 1991 plus many thousands of cases in the rest of the Region may be correspondingly much greater.

Prevention and Control

Prevention of HIV transmission would be facilitated by an effective vaccine capable of preventing infection, or by a therapeutic agent able to reduce or eliminate the infectiousness of already-infected people. However, a vaccine suitable for large-scale use is highly unlikely to become available prior to the mid-1990s. In addition, a vaccine has never been made against a human retrovirus, and several retrovirologists have raised the possibility that vaccines currently under development may not be protective.

A recent clinical therapy trial among AIDS patients found that Azidothymidine (AZT) prolonged life and was associated with clinical and immunologic improvement. However, the drug's side-effects include bone-marrow suppression requiring frequent transfusion; and the longer-term benefits and risks of AZT treatment are currently unknown. Overall, it appears that AZT could represent a first major step toward eventual development of safe and effective therapeutic agents. It is also possible that such agents could play a role in the treatment of asymptomatic persons infected with HIV, acting both to prevent progression of AIDS and to reduce or eliminate the danger of transmission.

Despite such advances, however, it seems unlikely that a vaccine or treatment will become available in the next

five years that can help control the HIV pandemic. Therefore, at least during this initial period, prevention of transmission must be achieved through general and targeted health education interventions designed to promote and sustain changes in sexual behavior. Education programs must tell the public about how this virus is transmitted from person to person, what specific sexual behaviors increase an individual's risk of acquiring the disease, and what specific measures can prevent transmission. Complementary interventions include AIDS screening programs designed to ensure the safety of blood and blood products. In this regard, it should be noted that fears aroused by AIDS have affected policy-making in some countries, encouraging adoption of unsound or inefficient measures such as indiscriminate testing of tourists and international travelers, isolation of AIDS patients, and quarantining of individuals with a positive HIV antibody test.

The World Health Organization recently convened a consultation on international travel and HIV infection (Geneva, 2–3 March 1987) which concluded that "no screening program of international travelers can *prevent* the introduction and spread of HIV infection . . . and would, at best and at *great cost,* retard *only briefly* the dissemination of HIV both globally and with respect to any particular country." Similarly, WHO convened a meeting on "Criteria for HIV-Screening Programs" (Geneva, 20–21 May 1987) in which it was concluded that "the interests of both public health and respect for human rights will best be served by addressing [a series of specific] criteria with care prior to *initiation* of screening programs as an element in HIV prevention and control strategies."

Overall, despite the considerable public response to date, the magnitude of the HIV pandemic and its broad impact have been seriously underestimated and underappreciated. This is partly due to the small number of AIDS cases reported—cases representing a very small fraction of a much larger number of infected but currently asymptomatic people.

Even so, since mid-1986 a major shift of perspective and opinion regarding the HIV pandemic has occurred throughout the hemisphere. Several countries (Argentina, Bolivia, Brazil, Chile, the Dominican Republic, Ecuador, El Salvador, Haiti, and Mexico) have developed comprehensive national AIDS prevention and control programs. Others (Costa Rica, Panama, and several Caribbean countries) have adopted several measures such as blood bank screening to reduce HIV transmission. Canada has established a Federal AIDS Program to coordinate AIDS prevention activities, disseminate technical information, and assist provincial programs. The United States Government has assigned AIDS and HIV infection the highest public health priority, with specialized agencies of the Department of Health and Human Services (such as the Food and Drug Administration, Communicable Disease Center, and National Institutes of Health) continuing to provide the necessary technical leadership and financial support to state and local programs.

WHO and WHO/PAHO Programs

In May 1986 the Thirty-ninth World Health Assembly approved the creation of an AIDS program within the World Health Organization (WHA39.29, Annex 1; Report to 79th Session of the Executive Board, EB79/12, Annex 2). In November 1986 the WHO Director-General announced that, in the same spirit of dedication and global purpose with which WHO undertook smallpox eradication, his Organization would now be committed to the more urgent, difficult, and complex challenge of global AIDS control.

From a world perspective, it seems clear that global AIDS prevention and control will require two complementary activities. These are (1) strong national AIDS prevention and control programs, and (2) effective international leadership, coordination, and cooperation.

The WHO Special Program on AIDS has been created as a vehicle enabling WHO to perform its critical role in global AIDS prevention and control. Through the Regional Offices this program will support the development of strong national AIDS programs, provide international leadership, and ensure global coordination and cooperation.

Within this world context, a Regional WHO/PAHO Special Program on AIDS has been developed. This program has two principal objectives: (1) to prevent HIV transmission and (2) to reduce the morbidity and mortality associated with HIV infection.

Program strategies. Multiple strategies and associated activities are currently projected for 1987–1989, providing a variety of complementary ways to advance program objectives. It is understood that rapid evolution of knowledge regarding HIV, techniques for preventing its transmission, and ways of reducing its impact may require substantial realignment of these strategies and activities during this or subsequent periods.

At present the principal strategy is to collaborate with Member Countries through direct technical assistance and financial support—so as to help develop and implement national AIDS prevention and control programs. More specifically, the strategy calls for support of (1) research to define the epidemiology of AIDS, (2) surveillance conducted with appropriate laboratory support, (3) training of health care workers, and (4) implementation of preventive measures. These preventive measures include collaboration with PAHO Member States to:

- develop and strengthen health promotion and education leading to sustained changes in sexual behavior;
- develop and strengthen blood transfusion systems to ensure proper collection, screening, and use of blood; and develop and strengthen blood donation counseling and medical evaluation services (both predonation and postdonation);
- ensure that blood products are produced in a manner that eliminates the risk of HIV transmission;
- ensure the sterility of needles, syringes, and other skin-piercing instruments;

- support development and implementation of policies and practices to ensure that donated organs and semen are free of HIV;
- support development, implementation, and evaluation of interventions to reduce prenatal HIV transmission; and
- help institutions in Member States to develop, test, produce, and deliver therapeutic agents and vaccines.

Operational activities. Rather than establish limited goals for the program and in so doing not meet Member States' needs, the global Special Program on AIDS has elected, even at the expense of strict sequential development of activities, to accomplish as much as possible as quickly as possible. PAHO subscribes to this approach. Given the urgency of the HIV pandemic, PAHO believes this approach to be necessary and responsible. Given the full collaboration of Member States and the network of agencies and institutions in working relationships with PAHO, the special program will accomplish more than would otherwise be expected if a "business as usual" approach were followed.

Because the HIV pandemic involves unprecedented biological and social problems, it is inevitable that some of the procedures developed will be of an exploratory nature, and in retrospect some activities will be seen as having a less than optimal effect. In countries where there has already been epidemiologic and political recognition of the HIV problem (e.g., Brazil, Argentina, and Haiti), the WHO/PAHO Special Program on AIDS is already providing technical assistance and financial support for the formulation of national programs. This work will be strengthened and broadened to assist these and other Member States already engaged in dealing with HIV.

In general, PAHO's program will have two components. These are (1) technical support for national AIDS prevention and control programs, and (2) promotion and execution of epidemiologic studies and related research. The PAHO program has already mobilized US$1.3 million from WHO's nonregular funding sources for AIDS prevention and control activities in the Americas. An additional US$5 million has been obtained for AIDS research in Latin America and the Caribbean through a contract with the U.S. National Institutes of Health. The future success of the program will now depend upon the political, financial, and administrative emphasis that each individual Member Country chooses to give the program, and upon mobilization of additional resources to support programs in collaboration with the Member Countries.

Source: Pan American Health Organization, WHO/PAHO Special Program on AIDS, Acquired Immunodeficiency Syndrome (AIDS) in the Americas, PAHO document CD32/10 (Annex), Washington, D.C., September 1987.